

REMARKS

Entry of the foregoing and reconsideration of the application identified in caption, as amended, pursuant to and consistent with 37 C.F.R. §1.111 and in light of the remarks which follow, are respectfully requested.

At the outset, it is noted that while the Office Action Summary at item 6 indicates that claim 3 has been rejected, the Office Action sets forth no rejection of such claim. The Examiner is respectfully requested to indicate the disposition of claim 3.

By the above amendments, new claims 28 and 29 have been added which depend from claims 2 and 6, respectively, and recite that the active solid comprises a porous and/or microporous solid that can be used in a reversible adsorption process. It is noted that the subject matter of such newly added claims corresponds to that of claim 4, which depends from claim 1.

In the Official Action, claims 1, 2 and 4-27 stand rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent Application Publication No. 2003/0054141 (*Worley et al*). Withdrawal of this rejection is respectfully requested for at least the following reasons.

Independent claims 1, 2 and 6 each recites a composite material comprising an active solid and a phase change material. Each of claims 20-27 directly or indirectly depends from claim 1, and is directed to a method in which a composite material is employed.

Worley et al relates to a coated article comprising a substrate having a surface and a coating covering a portion of the surface and comprising a polymeric material and a temperature regulating material dispersed in the polymeric material.

The coating may be formed with a plurality of regions of discontinuity that are separated from one another and expose a remaining portion of the surface to provide improved flexibility and air permeability to the coated article. See paragraph [0005].

It is well established that "[a] claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). For an anticipation to exist, "[t]he identical invention must be shown in as complete detail as is contained in the . . . claim." *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

In the present case, Applicants submit that *Worley et al* does not disclose each feature recited in independent claims 1, 2 and 6, and as such fails to constitute an anticipation of such claims. For example, *Worley et al* does not disclose a composite material comprising an active solid and a phase change material, wherein the active solid is selected from solids that can be used in a method involving reversible physicochemical processes that are exothermic in one direction and endothermic in the opposite direction, as recited in such claims.

Concerning such subject matter, the Patent Office has taken the position that the containment structure described in paragraphs [0043] and [0044] of *Worley et al* corresponds to the claimed active solid. See Official Action at page 2. Specifically, the Examiner has alleged that such containment structure comprises a porous and/or microporous solid that can be used in a reversible adsorption process. However, *Worley et al* discloses that the containment structure is impregnated with the phase change material. See paragraph [0044]. *Worley et al* further discloses

that "the containment structure may serve to reduce or prevent leakage of the phase change material from the coated particle during end use." Paragraph [0043]. That is, even if the containment structure materials could have been considered as porous or microporous solids, *Worley et al* teaches that any such pores are impregnated with its phase change material. Simply put, there is no explicit or implicit disclosure that the *Worley et al* article is capable of use in a method involving reversible physicochemical processes that are exothermic in one direction and endothermic in the opposite direction, as is the recited active solid.

As noted in Applicants' disclosure at pages 9 to 14, in exemplary aspects of the invention, the recited active solid can be used to adsorb another material, for example, a gas, in processes such as a pressure swing adsorption method, a gas storage method, or a method for extracting oxygen from air. Such examples further highlight the functionality of the claimed active solid in a method involving reversible physicochemical processes. By comparison, there is no recognition that the containment structure of *Worley et al* is an active solid that can be used in a reversible adsorption process; quite to the contrary, **the containment structure would already be impregnated with the phase change material.**

The dependent method claims are further distinguishable from the *Worley et al* disclosure. For example, *Worley et al* has no disclosure of a method for purifying a gas mixture by adsorption and regeneration by pressure modulation as recited in claim 21, a method for storing gas by reversible adsorption on a porous solid as recited in claim 24, or a method for extracting oxygen from air by adsorption and regeneration by pressure modulation as recited in claim 26. *Worley et al* relates to a

coated article for use in apparel, footwear and medical products, and simply has no disclosure of the above claimed methods.

For at least the above reasons, it is apparent that the claims are not anticipated by *Worley et al.* Accordingly, withdrawal of the above rejection is respectfully requested.

From the foregoing, further and favorable action in the form of a Notice of Allowance is believed to be next in order, and such action is earnestly solicited. If there are any questions concerning this paper or the application in general, the Examiner is invited to telephone the undersigned.

Respectfully submitted,

BUCHANAN INGERSOLL & ROONEY PC

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By: 

Roger H. Lee
Registration No. 46317

P.O. Box 1404
Alexandria, VA 22313-1404
703 836 6620